Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of:	)	
	)	
LightSquared Technical Working Group Report	)	IB Docket No. 11-109
	)	
	)	

COMMENTS OF
THE NATIONAL PUBLIC SAFETY TELECOMMUNICATIONS COUNCIL

The National Public Safety Telecommunications Council (NPSTC) submits these Comments in response to the Commission's Public Notice in the above-captioned proceeding.[1] In these comments, NPSTC addresses issues surrounding potential interference to public safety use of GPS and provides recommendations for additional testing under the modified deployment approach LightSquared proposed in its recommendations submitted June 30, 2011.

[1] *Public Notice: Comment Deadlines Established Regarding the LightSquared Technical Working Group Report, DA 11-1133, released June 30, 2011.*

The National Public Safety Telecommunications Council

The National Public Safety Telecommunications Council is a federation of public safety organizations whose mission is to improve public safety communications and interoperability through collaborative leadership. NPSTC pursues the role of resource and advocate for public safety organizations in the United States on matters relating to public safety telecommunications. NPSTC has promoted implementation of the Public Safety Wireless Advisory Committee (PSWAC) and the 700 MHz Public Safety National Coordination Committee (NCC) recommendations. NPSTC explores technologies and public policy involving public safety telecommunications, analyzes the ramifications of particular issues and submits comments to governmental bodies with the objective of furthering public safety telecommunications worldwide. NPSTC serves as a standing forum for the exchange of ideas and information for effective public safety telecommunications.

The following 15 organizations participate in NPSTC:

American Association of State Highway and Transportation Officials
American Radio Relay League
Association of Fish and Wildlife Agencies
Association of Public-Safety Communications Officials-International
Forestry Conservation Communications Association
International Association of Chiefs of Police
International Association of Emergency Managers
International Association of Fire Chiefs
International Municipal Signal Association
National Association of State Chief Information Officers
National Association of State Emergency Medical Services Officials
National Association of State Foresters
National Association of State Technology Directors
National Emergency Number Association
National Sheriffs' Association

Several federal agencies are liaison members of NPSTC. These include the Department of Homeland Security (the Federal Emergency Management Agency, the Office of Emergency Communications, the Office of Interoperability and Compatibility, and the SAFECOM Program; Department of Commerce (National Telecommunications and Information Administration); Department of the Interior; and the Department of Justice (National Institute of Justice, CommTech Program). NPSTC has liaison relationships with associate members, the Telecommunications Industry Association, the Canadian Interoperability Technology Interest Group, the National Council of Statewide Interoperability Coordinators, and the Utilities Telecom Council.

NPSTC Comments

In any introduction of new technology, a key NPSTC concern is the prevention of interference to current or proposed public safety operations. In January 2011, NPSTC wrote to the Commission raising concerns about the potential for interference to public safety use of GPS resulting from a proposal by LightSquared to deploy approximately 40,000 terrestrial transmitter sites across the country in spectrum adjacent to that used by GPS.[2] Accurate GPS information is very important to the public safety community. GPS is used for wireless 911 location, support of dispatch operations, mapping/response directions to responders, and synchronization of simulcast systems across the country.

The FCC subsequently required LightSquared to test for interference to GPS and submit a report to document the potential for interference with recommended mitigation procedures. NPSTC volunteered, and was selected, to participate in the GPS Technical Working Group (TWG) being co-chaired by LightSquared and the U.S. GPS Industry Council to assess the potential for interference to a wide range of GPS devices. Because of the compressed schedule for testing and the significant

[2] NPSTC letter to Chairman Julius Genachowski, January 25, 2011 concerning LightSquared Application Request for Modification of its Authority for Ancillary Terrestrial Component (ATC) (FCC File No. SAT-MOD-20101118-00239).

number of different market segments that use GPS, testing for any one segment was fairly limited.

LightSquared submitted the Technical Working Group report to the Commission on June 30, 2011 and the Commission promptly issued a Public Notice the same day requesting comments. The Commission's Public Notice indicated that the Technical Working Group report identified significant technical issues related to potential LightSquared operations in the upper portion of the L-Band, which is the closest to the band used for GPS. The Public Notice states:

> The tests demonstrated potentially significant interference between LightSquared operations in the upper portion of the band and various GPS receivers. The tests also identified some interference issues in the lower 10 MHz portion of the band. The overall conclusion of the testing is that transmissions in the upper 10 MHz channel — the channel nearest to the 1559-1610 MHz GPS band — will adversely affect the performance of a significant number of legacy GPS receivers. [3]

The Commission's Public Notice also indicates that LightSquared has submitted its recommendations to address the problems identified by the working group:

> In particular, LightSquared indicates its willingness to: (1) operate at lower power than permitted by its existing FCC authorization; (2) agree to a "standstill" in the terrestrial use of its Upper 10 MHz frequencies immediately adjacent to the GPS band; and (3) commence terrestrial commercial operations only on the lower 10 MHz portion of its spectrum and to coordinate and share the cost of underwriting a workable solution for the small number of legacy precision measurement devices that may be at risk.[4]

The Commission invited comment on LightSquared's recommendations, any alternative proposals to enable both GPS devices and L-band mobile broadband to co-exist and any general comments on the technical working group report in general.

First, NPSTC appreciates LightSquared's recognition that operation on its upper channel at 1545.2 to 1555.2 MHz closest to the 1559-1610 MHz GPS band would be a significant source of interference to many users of GPS, including public safety. LightSquared has proposed the following:

---

[3] *Public Notice* at page 2.

[4] *Public Notice* at page 2.

> LightSquared commits to a standstill period in which it will not deploy the upper 10 MHz band on its terrestrial network without receiving explicit approval from the FCC, acting in consultation with NTIA… Six months into the standstill period, LightSquared will commence a process of working with the Commission and NTIA to explore options that ensure that GPS operations are protected and that enable LightSquared to meet its customers' anticipated demand for LTE capacity and service levels, as LightSquared has planned, using a full complement of terrestrial frequencies operating at appropriate power levels.[5]

NPSTC's goal in this proceeding is straightforward—to ensure that interference does not result to public safety related use of GPS. NPSTC believes that LightSquared's proposal to a "standstill period" regarding use of the upper 10 MHz of the L Band spectrum is one step in the right direction. However, it is not clear how long this "standstill period" would be or whether viable solutions to prevent interference to public safety use of GPS could be identified and implemented before the Commission authorizes subsequent use of the upper channel to be deployed in the LightSquared network. Therefore, NPSTC believes that additional details need to be identified surrounding this "standstill proposal," and the criteria for lifting the prohibition on use of the upper channel.

LightSquared also provides a modified proposal for operation in the interim under which the Commission would allow commercial deployment in a lower channel, specifically 1526 to 1536 MHz, further removed from the GPS signal. If sufficient testing and evaluation of the results had been conducted to ensure a high confidence level that no interference to public safety would result, NPSTC would support that approach. However, the significantly compressed schedule applied to the testing and review of test results leaves NPSTC with too little confidence that those tests provide assurance there will be no interference to public safety under LightSquared's modified deployment proposal.

Public safety utilizes a variety of portable and mobile devices, as well as base infrastructure systems. While the Technical Working Group testing encompassed 130 devices overall, only six were in the public safety category. Testing of a larger group of public safety devices could not be

[5] Recommendation of LightSquared Subsidiary, LLC, IB Docket 11-109, June 30, 2011, at pages 26 and 27.

accommodated under the compressed schedule imposed. Furthermore, for the few devices that were tested, very little time was available to review and analyze the test results. NPSTC believes that additional testing will need to be completed to evaluate LightSquared's modified deployment proposal. Full testing needs to be performed in both the lab and open air environment including both Urban and Suburban areas of deployment. A full set of tests need to be conducted without artificially limiting the scope of public safety devices because of compressed schedules. Such tests should also be conducted with LightSquared's licensed power and its proposed reduced power. Finally, sufficient time needs to be allocated to evaluate and analyze the test results.

The Commission and public safety already have extensive experience on the problems created when interference must be resolved after the fact. Public Safety has been involved in the multi-year 800 MHz rebanding initiative in which the time originally predicted for conclusion continues to expand. Public safety simply does not have the resources needed to "fix" another major interference problem after-the-fact. Fortunately, in the case of LightSquared, there is already awareness and recognition that there is a potential interference problem, so it should be resolved at the outset before harmful interference has a chance to occur.

Conclusion

It is clear that the testing done to date confirms significant interference problems will occur if LightSquared's upper channel is deployed. NPSTC would like equal assurance that interference problems will not occur when only the lower channel is deployed and believes additional testing and analysis of the results is needed under a rational schedule. NPSTC appreciates LightSquared's proposal for a "standstill period" during which its upper channel would not be deployed, but NPSTC believes additional detail is needed to help ensure no interference to public safety will occur if and when the Commission does authorize use of the upper channel.

Respectfully submitted,

Ralph A. Haller, Chairman
National Public Safety Telecommunications Council
8191 Southpark Lane, Number 205
Littleton, Colorado 80120-4641
866-807-475

July 30, 2011